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ON THE MELOÏDÆ OF ANGOLA.

BY F. CREIGHTON WELLMAN, M.D.

While determining a collection of Angolan specimens of Coleoptera of the family Meloïdæ recently collected by myself, I have had occasion to go somewhat thoroughly into the literature of the subject and also to compare the material in the British Museum, the Hope Department of Oxford University, the Königliches and the National Museums in Berlin, the National Museum at Washington, and several private collections; so it seems that the results, together with my collecting notes, may be of sufficient interest to publish along with the descriptions of the new forms that have come to light.

Our present knowledge of the Meloïdæ of Angola, it may be said, is due principally to three collections, viz., the Schönlein-Grossbendtner collection described by Erichson, the Welwitsch collection, the Meloïd material of which was described by Marseul, and the collection made by von Hohmeyer and Pogge and described by Harold. My own collection—described in the present paper—is now added. Besides these there are a few single descriptions by various authors, which will be found in their places in the present list. It is possible that some of the more recent records have escaped my attention. Of the four collections named above, by far the most complete is that of Welwitsch, which, like all the collections of this gifted naturalist, is of the highest scientific value.

I have recently, in collaboration with Dr. Walther Horn of Berlin, published a memoir containing a short description of the region under consideration and some account of its zoogeographical features and shall content myself with referring to that paper,¹ only observing here that with the exception of two new species, viz., *Mylabris (Actenodia) deserticola* Wellman (from the littoral region) and *Mylabris chisambensis* Wellman (from the high inland plateau), all the Angolan Meloïdæ collected by me are from the mountain slopes intermediate between the interior alpine region and the low-lying coastlands.

Some of the habits of the beetles are most interesting. I shall not

¹ On the Cicindelinae of Angola, by F. Creighton Wellman, M.D., F.E.S., and Walther Horn, M.D., *Proc. Acad. Nat. Sci. Phila.*, November, 1908, pp. 504-512.

speak here of the remarkable illustrations of mimicry and warning colors afforded by the Angolan species, as I have already in preparation a paper on these questions, in collaboration with Prof. E. B. Poulton, F.R.S., of Oxford University, England. I may perhaps with advantage, however, refer at this time to the most important food plant of the Angolan Meloïdæ. This is a small Roseaceous annual which Prof. Engler kindly informed me in Berlin last summer was a species of *Tribulus* (*T. zegheri*) which is widely distributed in tropical Africa. Throughout the desert belt of Angola (which extends from the sea to a point 30 to 100 miles inland according to the configuration of the country) this plant occurs in enormous masses and is the most important and indeed almost the only food supply of the Meloïdæ of the region. Most of the genera represented eat it—*Mylabris* (*Ceroctis*, *Actenodia*, *Coryna*, *Decapotoma*), *Lytta*, etc. There are great patches of the yellow blooms and these reveal thousands of beetles; sometimes almost every plant has one or more beetles. Some of the more common species like *Mylabris dentata* Olivier, *Mylabris* (*Actenodia*) *chryso-melina* Erichson, *Mylabris pluvialis* Wellman, *Mylabris* (*Decapotoma*) *regis* Thomas and *Mylabris* (*Coryna*) *12-punctata* Chevrolat can be obtained in almost endless numbers, and the yellow fæces of the beetles may be seen over the ground like numerous small dots. It is interesting to note that insects like these, which are during their larvæ stages all parasitic on other insects, should have such an intimate relation in their imaginal stage to certain plants. Lyttini in their early stages feed on the eggs of Orthoptera and Mylabrini on the young of the same order of insects. In Angola these beetles occur shortly before or about the time when the young Locustidæ and Acrididæ become numerous, the first rains doubtless having something to do with the hatching of them all. The appearance of the adult Meloïdæ is almost exactly synchronous with the flowering of the *Tribulus*, which lasts only a few weeks, and should the beetles be too early or too late in their appearance they (being flower feeders) must inevitably perish from want of food in this desert region where only this one species of *Tribulus*² (which is apparently fertilized by the beetles themselves) is abundant enough to support such vast numbers of insects. We see here another illustration of how in the economy of nature the interdependence of several organisms may be very close

² I have remarked on the relation of this flower to Angolan Meloïdæ before the Deutsch. Entomol. Gesellschaft, *vid.* report in *Deutsch. Ent. Zeitschrift*, 1908, p. 647.

and the adjustment of life to environment very delicate. Other notes on the habits of the various species need not be discussed here, but will be found with the mention of the various species.

Following is a list of the species occurring in Angola, so far as I have been able to verify the records. When I have had occasion to compare material with original types I have usually indicated where such types are to be found. It may be mentioned that in the records and synonymy all names from Dejean's Catalogue have been ignored, as have MS. names, since the recognition of such serves only to perpetuate confusion. A set of cotypes (with the exception of three uniques) of the new forms described in this paper has been deposited in the collection of the United States National Museum. Probably a few of the species now included under *Mylabris* (sens. str.), and of which I have been unable to trace the types, will later have to be distributed among the various subgenera which I have recognized.

Fam. MELOIDÆ.

Subfam. LYTTINÆ.

Tribe MYLABRINI.

Genus MYLABRIS Fabr., Syst. Ent., 1775, p. 261.

Subgenus 1. ACTENODIA Cast., Hist. des Ins., II, 1840, p. 268.

Syn. *Actenoda* Erichs., Wieg. Arch., IX, 3, 1843, p. 257 (? *ex error*).

Syn. *Arithmema* Chev., Ic. Régn. anim., III, p. 384.

Subgenus 2. CORYNA Billb., Mon. Mylabr., 1813, p. 73, nota.

Syn. *Hycleus* Latr., Régn. anim., Ed. I., 1817, p. 314.

Subgenus 3. DECAPOTOMA Voigts, Wien. Ent. Zeit., XXI, p. 177.

Syn. *Decatoma* Cast., Hist. des Ins., II, 1840, p. 268 (nec Spinola).

Subgenus 4. MYLABRIS Fabr., Syst. Ent., 1775, p. 261 (sens. strict.).

Subgenus 5. CEROCTIS Mars., Abeille, VII, 2, 1870, p. 168.

Syn. *Mimesthes* Mars., Mem. Soc. Sci. Liège, 1872, p. 566.

Subgenus 6. LYDOCERAS Mars., Abeille, VII, 2, 1870, p. 12.

The following artificial table based on the antennal characters may be useful in separating these subgenera of *Mylabris*:

- A.—Antennæ with from eight to eleven joints, last joints inflated into a club-shaped mass.
- a.—Antennæ moniliform.
- Antennæ eight-jointed, ACTENODIA.
- Antennæ nine-jointed, CORYNA.
- Antennæ ten-jointed, DECAPOTOMA.
- Antennæ eleven-jointed, MYLABRIS (s. str.).
- aa.—Antennæ serrate.
- Antennæ eleven-jointed, CEROCTIS.
- AA.—Antennæ with eleven joints, last joints not inflated.
- Antennæ somewhat flattened, LYDOCERAS

Subgenus ACTENODIA Cast.

1. *Mylabris* (A.) *chrysomelina* Erichs. Wieg. Arch. f. Naturg., 1843, p. 258.

Angola (ERICHSON), Loanda, Bengo (WELWITSCH), Mossamedes (ANCHIETA), Gamba, March, 1908, 341 specimens (WELLMAN). All the specimens were taken on the flowers of *Tribulus zegheri*. Type in Berlin Königliches Museum, marked on locality label "Angola, Schönh."

2. *Mylabris* (A.) *deserticola* Wellm. spec. nov.

Nigra, elongata, pallido-pubescent; elytris nigris, punctulatis, pone basin et humerale flavo-maculatis undulatimque bifasciatis, fascia anteriore flava, posteriore fulva; prothorace et capite fortiter punctatis, illo medio breviter foveolato; antennarum articulis 1, 2, 6, 7, 8 nigris, 3, 4, 5 testaceis; pedes testacei, geniculis tarsisque nigris.

Long. corp. 8 mm.

Lat. elytr. $3\frac{1}{4}$ mm.

Hab. Benguella (Africa) ab auctore collecta.

Typ. in coll. mea.

Small, graceful species; head black, rather strongly punctured and with a few scattered minute pale hairs; labrum emarginate, rather hairy; mandibles fuscous, maxillary palpi with apical joint obliquely truncate and nearly twice as long as penultimate, labial palpi short, eyes large, antennæ with first two joints black, 2d to 5th testaceous, 6th to 8th black, rather sparsely covered with short fine white hairs and a few larger black ones, the last joint more closely covered with short fine white hairs; thorax black rather sparsely and strongly punctured, clothed with pallid hairs, in the center at the basal third is an elongate fovea about $\frac{1}{3}$ the length of the thorax; scutellum small, with a few short pallid hairs; elytra black irregularly punctulate, pallidly villose, with a large yellow or pale orange spot at the base of each elytron, and two transverse irregular bands, one of a yellow color a little in front of the middle and the other of an orange red color about half way between the middle band and the apex of the elytron; at the humeral margin of the elytron is a spot smaller and narrower than the basal spot, this is connected by a narrow marginal band to the middle transverse fascia; legs testaceous with a rather broad apical black band to the femora, a much narrower, occasionally nearly obsolete black apical band on the tibiæ and tarsi, the last tarsus being sometimes almost entirely black; the under side of the body is black.

Type in my collection; cotype (paratype) Cat. No. 12119, U. S. N. M.

Five specimens of this pretty little species were taken in the desert just outside of the city of Benguella in March, 1908. They were all on a leafless shrub and their food plant is unknown. It seemed pro-

blematical what they could find to feed on in that dried-up region. There is a series of specimens without name in the Königliches Museum in Berlin.

3. *Mylabris* (A.) *juunda* Erichs., Wieg. Arch. f. Naturg., I, 1843, p. 257.

Angola (ERICHSON), Angola, Benguella (MARSEUL).

Type in Berlin, Königliches Museum, marked "Angola, Schönh."

Subgenus CORYNA Billb.

4. *Mylabris* (C.) *ambigua* Gerst., Wieg. Arch. f. Naturg., XXXVII, p. 68.

Gamba, March, 1908, 2 specimens (WELLMAN).

This species was originally described from Zanzibar and placed by its author as a *Mylabris*.

Type in Berlin, Königliches Museum.

5. *Mylabris* (C.) *chevrolati* Beaur., Les Ins. Vés., 1890, p. 523.

Hycleus duodecimpunctata Chev., Guér. Ic. règn. anim., p. 132, tab. 35, fig. 3 (nec Oliv.).

Hycleus decinguttatus Cast., Hist. Nat. des Ins., II, p. 268.

Gamba, March, 1908, 72 specimens (WELLMAN).

Originally described from Senegal.

6. *Mylabris* (C.) *hermanniæ* Fabr., Ent. Syst., I, 2, p. 89.

Mylabris affinis Oliv., Ent., III, 47, p. 8, tab. 2, fig. 16.

Angola—"aus dem inneren"—(POGGE).

Described from Guinea.

7. *Mylabris* (C.) *mylabroides* Cast., Hist. Nat. des Ins., II, p. 208.

Mylabris lanuginosa Gerst., Monatsb. Berl. Acad., 1854, p. 695.

Angola (MARSEUL).

The type of *lanuginosa* is in Berlin, Königliches Museum.

8. *Mylabris* (C.) *posthuma* Mars., Mem. Soc. roy. Sci. Liège, 1872, p. 603. Pl. VI, fig. 6.

Angola, Bengale = ? Bangala (MARSEUL), Loanda, Bengo (WELWITSCH), Humbe, Huilla (ANCHIETA), Gamba, March, 1908, 308 specimens (WELLMAN).

On the flowers of *Tribulus zegheri*.

It is possible that *mixta* Mars. from "Caffraria" is a variety of *posthuma*.

9. *Mylabris* (C.) *tergemina* Mars., Mem. Soc. roy. Sci. Liège, 1872, p. 613.

Angola (MARSEUL).

Subgenus DECAPOTOMA Voigts.

10. *Mylabris* (D.) *decorata* Erichs., Wieg. Arch. f. Naturg., 1843, p. 256.

Angola (ERICHSON), Benguella (MARSEUL), Loanda (WELWITSCH), Loanda (HOHMEYER), Huilla (ANCHIETA).

Type in Berlin, Königliches Museum.

11. *Mylabris* (D.) *chiyakensis* Wellm. spec. nov.

Nigra, argenteo-villosa, caput et thorax obscure viridi-cærulescentia, subtiliter punctata, pallido-villosa; elytra nigra, argenteo-villosa; vittis duabus (altera dorsali, altera marginali; illa medium attingente ad apicem valde dilatata, hac medium subattingente minus dilatata) maculisque duabus (altera dorsali, altera marginali) inter medium et apicem positis: corpus infra pedesque nigra (femora pallido-hirsuta, tibiæ flavo-sericeae) pedes postici elongati.

Long. corp. 12 mm.

Lat. elytr. 4 mm.

Hab. Chiyaka, Angola (Africa) *ab auctore collecta.*

Typ. in coll. mea.

Medium sized species; *head* and *thorax* dark greenish-blue, finely punctured and clothed with long pale hairs; *eyes* large, very convex; *antennæ* with first two joints shining, the rest dull; *scutellum* almost semicircular; *elytra* black, finely punctured, clothed with pale, silvery hairs; on each elytron a dorsal and marginal broad yellow line, both dilated at the posterior termination, the former reaching past the middle of the elytron and strongly dilated into a large transverse spot; the latter not reaching to the middle of the elytron and less strongly dilated. In some specimens the dorsal vitta is interrupted, the terminal dilatation then becoming an isolated spot and the vitta remaining shorter than the marginal one. Half way between the terminal inflation of the dorsal vitta and the apex of the elytra a large, somewhat transverse spot; a smaller transverse spot opposite it at the margin. The legs and abdomen are clothed with rather long, pale hairs, the tibiæ being closely covered with shorter and yellower hairs. The hind legs are very long.

Type in my collection; cotype Cat. No. 12120, U. S. N. M.

There also occurs a variety of this species which may be briefly characterized as follows:

Mylabris (D.) *chiyakensis* var. *tekama* Wellm. var. nov

Vittis dorsalibus nullis maculisque minoribus.

Typ. in coll. mea.

The very striking reduction of the yellow markings gives at first glance the impression of a different species. The name is a local Bantu word referring to the dull color.

Eighty-one specimens of this interesting species were taken in February, 1908, chiefly on flowers of Compositæ. In life the antennæ are held farther forward than in most Mylabrini, giving the insect a somewhat peculiar aspect.

12. *Mylabris* (D.) *elendensis* Wellm. spec. nov.

Nigra, elongata, argenteo-subpubescens, capite prothoraceque crebre punctatis, hoc subimpresso; antennis nigris; elytra nigra, vittis duabus flavis (vitta dorsali ad apicem subiter, vitta marginali non, dilatata) maculisque 2 posticis, oblique positis, ornatis; pedes nigri, argenteo-sericei; abdomen nigrum.

Long. corp. 12 mm.

Lat. elytr. $3\frac{1}{4}$ mm.

Hab. Chiyaka (Mt. Elende), Angola, Africa; *ab auctore collecta.*

Typ. in coll. mea.

Slender species; *head* (including antennæ and mouth parts) black, closely punctured with pale villosity, *eyes* large, hemispherical; *antennæ* black, *thorax* black, punctured like head, pubescence pale, feebly impressed in the median line at its posterior third; *scutellum* large; *elytra* black, more coarsely punctured than the head and thorax, palely villose, with yellow markings disposed as follows: two dorsal vittæ, one on each elytron, not reaching to the posterior third of elytron; here it is angularly deflexed externally, forming the vitta into an obtuse angled hook; midway between this hook-like deflexion and the apex of the elytron is a large blotch longer than wide and lying at the same angle as the bent end of the vitta; a marginal vitta on each elytron distinctly shorter than the dorsal, and a small marginal spot just opposite the ante apical dorsal blotch; *legs* and under side of body black both clothed with pale hairs, the former closely beset with shorter hairs, the latter more sparsely set with long hairs.

Two specimens taken at Mt. Elende, Chiyaka, November, 1907, in a large orchid.

13. *Mylabris* (D.) *omega* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 585, pl. VI, fig. 11.

Loanda (WELWITSCH), Huilla (ANCHIETA).

14. *Mylabris* (D.) *regis* Thos., Ann. Mag. Nat. Hist., 6, XIX, 1897, p. 1897.

Angola (WELWITSCH), Gamba, March, 1908, 102 specimens (WELLMAN).

On the flowers of *Tribulus zegheri*.

Type in London, British Museum.

15. *Mylabris* (D.) *temporalis* Wellm. spec. nov.

Nigra, elongata subcylindrica, pilis argenteis hirta; capite prothoraceque nigris subtiliter punctulatis, argenteo-villosis, illo lato (tempora inflata et rotundata), hoc medio fortiter foveolato; antennis articulis 2 primis nigris, reliquis obscure brunneis; elytris nigris, fortiter punctulatis argenteo-villosis; vitta lata dorsali medium subattingente, altera

marginali angusta medium attingente, macula media dorsali et fascia irregulare inter medium et apicem (suturam et marginem attingens); corpus infra et pedes nigra, nigro-sericea.

Long. corp. 15 mm.

Lat. elytr. $4\frac{1}{2}$ mm.

Hab. Chiyaka, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

Medium-sized species, black, rather densely clothed with longish silvery hairs, which are longer on the head and thorax than on the elytra. The head is very wide, being much wider than the thorax, and in some specimens as wide as the elytra at their base, and with the tempora much inflated making the head above the eyes as wide as it is across the eyes themselves. Eyes not prominent. The head and thorax are finely punctulate, the latter with a median fovea situate somewhat in front of its posterior third. Antennæ with first two joints black, the remainder being a very dark brown. Scutellum long and narrow. Elytra black with yellow markings arranged as follows: on each elytron a broad dorsal vitta (one-fourth as wide as the elytron) not reaching to the middle of the elytron; another narrower marginal vitta reaching fully to, or rather beyond, the middle; behind the apex of the dorsal vitta and occasionally coalescing with it a large dorsal spot, irregular in outline but always transverse; behind this spot, midway between it and the apex of the elytron, an irregular yellow band. The legs and abdomen are densely clothed with long silvery hairs which are more abundant on the femora and tibiae.

Type in my collection; cotype Cat. No. 12121, U. S. N. M.

One hundred and two specimens taken in January, 1907 on Malvaceæ (*Hibiscus* and *Malache* spp.). The pattern of this species is wonderfully stable showing almost no variation.

Subgenus MYLABRIS Fabr. (*sens. strict.*).

16. *Mylabris* (M.) *andongoana* Har., Col. Hefte, XVI, 1879, p. 138.

Pungo Andongo, July (HOHMEYER).

Type in Berlin, Königliches Museum. The pubescence of the legs is in the type somewhat different from ordinary specimens.

17. *Mylabris* (M.) *atrochalybea* Mars., Journ. Sci. Math. Phys. Nat. Lisb., VI, No. XXV, 1879, p. 57.

Loanda (WELWITSCH), Huilla (LOBO D'AVILA).

18. *Mylabris* (M.) *benguelana* Mars., *ibid.*, p. 57.

Angola (WELWITSCH), Benguella (ANCHIETA).

19. *Mylabris* (M.) *bicinota* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 161, pl. V, fig. 60.

Loanda (WELWITSCH).

This species was described from Lake N'gami.

20. *Mylabris* (M.) *bifurcata* Mars., *Jorn. Sci. Math. Phys. Nat. Lisb.*, VII, No. XXV., 1879, p. 48.

Capangombe (ANCHIETA).

21. *Mylabris* (M.) *bilineata* Mars., *ibid.*, p. 56.

Angola (WELWITSCH).

22. *Mylabris* (M.) *bissexguttata* Mars., *ibid.*, p. 50.

Humbe (ANCHIETA).

23. *Mylabris* (M.) *carinifrons* Mars., *ibid.*, p. 47.

Angola (WELWITSCH).

24. *Mylabris* (M.) *chisambensis* Wellm., *spec. nov.*

Nigra, magna, elongata, convexa, nigro-villosula; capite, prothoraceque crebre punctulatis; antennis nigris; elytris nigris, punctulatis, macula magna juxta-scutellare et altera minore humerali testaceis; medio undulatim lateque testaceo-bifasciatis; corpus infra et pedes intermediis posticisque nigro-pubescentes; pedes antici dense argenteo-sericei.

Long. corp. 24 mm.

Lat. elytr. 10½ mm.

Hab. Chisamba, Bihé, Angola (Africa); a Doctore L. Cammack collecta.

Typ. in coll. mea.

Large species; head black, finely punctured, clothed with fine black hairs which are fewer on the vertex; labrum emarginate, the margin provided with a thick fringe of coarse testaceous hairs, its basal third smooth, the apical two-thirds very closely, finely and regularly punctured; eyes slightly reniform; antennæ black, with a tuft of coarse black hairs on the anterior surface of the basal joint and a few scattered black hairs on the next three joints; maxillary palpi large with apical joint inflated and squarely truncate, both maxillary and labial palpi with long black hairs on them; thorax with punctuation and pubescence like that of head, posterior margin elevated, two feeble impressions, one just in front of the posterior margin, and the other just in front of the posterior third of the thorax, both in the median line; scutellum small, triangular with the posterior angle truncate; elytra black, with a large juxta-scutellar straw-colored spot, not quite reaching the sutural margin, on each elytron; nearly opposite to this, but rather more in front, a smaller spot on the humeral margin; two wide, wavy bands of the same color dividing the elytra into three nearly equal parts, but placed nearer together than from the basal or apical borders of the elytra; legs black, densely clothed with short black hairs and some longer ones, the front legs very closely covered on their internal surface with short pale hairs and in the males provided with very long

black hairs at the apex of the tibiæ and sides of the tarsi; under surface of body black with longish black pubescence.

Type in my collection; cotype Cat. No. 12122, U. S. N. M.

Eight specimens sent by Dr. Cammack, taken on "foliage." One of the individuals is a monstrosity, having the secondary bifurcation of the inner front claws reduced to a tiny spur.

This species in its coloration and facies presents a startling resemblance to an oriental species (*M. cichorii* Linn.), but the striking differences in the mouth parts readily separate it.

25. *Mylabris* (**M.**) *dentata* Oliv., Encyc. méth., VIII, p. 97.

Mylabris tortuosa Erichs., Wieg. Arch. Naturg., I, 1843, p. 256.

Angola (ERICHSON), Loanda, Benguella (MARSEUL), Icolo, Loanda (WELWITSCH), Loanda (HOHMEYER), Humbe, Cabinda (ANCHIETA), Gamba, March, 1908, 84 specimens (WELLMAN).

This species was first described from Sierra Leone.

26. *Mylabris* (**M.**) *dicincta* Bert., Nov. Act. Bonon., X., 1849, p. 419.

Mylabris bizonata Gerst., Monatsb. Berl. Acad., 1854, p. 694.

Mylabris dicincta var. *Buqueti* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 408.

Zonabris dicincta var. *occidentalis* Har., Col. Hefte, XVI, 1879, p. 135.

Benguella (MARSEUL), Angola (WELWITSCH), Capangombe (ANCHIETA), Gamba, 60 specimens, on flowers of *Tribulus zegheri*, March, 1908 (WELLMAN).

The typical form was first described from Mozambique. The Angolan form with juxta-scutellar and humero-marginal elytral spots seems to be a distinctively western race and is probably a true subspecies. In all my specimens the last three joints of the palpi are yellow.

A specimen of *dicincta* probably named by Bertolini and designated as a "type" is in Berlin, Königliches Museum.

27. *Mylabris* (**M.**) *discrepens* Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, p. 46.

Loanda (WELWITSCH).

28. *Mylabris* (**M.**) *dispar* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 435, pl. IV, fig. 22a.

Ambriz (MARSEUL).

29. *Mylabris* (**M.**) *erichsoni* Gemm., Col. Hefte, VI, 1870, p. 123.

Mylabris duodecimguttata Erichs., Wieg. Arch. Naturg., I, 1843, p. 257 (nec Germar).

Angola (ERICHSON).

30. *Mylabris* (**M.**) *flavoguttata* Reiche, Galin. Voy. Abyss., 1850, p. 380, tab. 23, fig. 6.

Angola (WELWITSCH).

A species described from Abyssinia.

31. *Mylabris* (**M.**) *gamicola* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 436, pl. IV., fig. 23a.

Humbe (ANCHIETA).

Described from Lake N'gami.

32. *Mylabris (M.) holosericea* Klug, Erm. Reise, 1835, p. 41.

Loanda (WELWITSCH).

Described from Guinea. It is suggested by Mr. Champion (*Mém. Soc. Ent. Belg.*, 1899, p. 165) that *villosa* Fähr. (*Öfv. Vet.-Ak. Forh.*, XXVII, p. 345) from "Caffraria" is a variety of this species.

33. *Mylabris (M.) hybrida* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 418, pl. IV. fig. 12.

Capangombe (ANCHIETA).

Described from Port Natal.

34. *Mylabris (M.) jacob* Mars., Jorn. Sci. Math. Phys. Nat. Lisb., V, No. XXV, 1879 p. 53.

Loanda (WELWITSCH), Capangombe (ANCHIETA).

35. *Mylabris (M.) lactimala* Mars., *ibid.*, p. 44.

Humbe (LOBO D'AVILA).

36. *Mylabris (M.) lanigera* Mars., *ibid.*, p. 49.

Angola (WELWITSCH).

37. *Mylabris (M.) liquida* Erichs., Wieg. Arch. Naturg., I, 1843, p. 255.

Angola (ERICHSON). Loanda, Pungo Andongo (HOHMEYER), Cabinda (ANCHIETA), Angola (WELWITSCH), Gamba, March, 1908, 7 specimens (WELLMAN).

On the flowers of *Tribulus zегheri*.

My specimens differ from typical examples in that the basal fascia of the elytra is not humerally subinterrupted.

38. *Mylabris (M.) muata* Har., Mitth. Munch. Ent. Ver., 1878, p. 109.

Angola—"aus dem inneren"—(POGGE).

This species was first described, probably from Kabébé, now in the Congo Free State, as a *Bruchus*, but was subsequently (*Col. Hefte*, 1879, p. 136) removed by its author from that genus and placed in *Mylabris*, where it conflicts with *Mylabris muata* Har., *Mitth. Munch. Ent. Ver.*, 1878, p. 109. I accordingly propose for this last species, which is not mentioned by Mr. Champion in his "List of the Cantharidæ Supplementary to the 'Munich' Catalogue" (*Mém. Soc. Ent. Belg.*, 1899, pp. 154-206), the following designation:

Mylabris (M.) haroldi Wellm. nom. nov.

The type of *muata* in the Berlin, Königliches Museum, has "Regn. Lunda" on the locality label.

39. *Mylabris (M.) myops* Chevr., Guér. Ic. régn. anim., p. 133, tab. 35, fig. 4.

Cabo Negro (WELWITSCH).

Described from the Cape of Good Hope.

Among my specimens (not collected by myself, but undoubtedly from Angola) and also among those of Welwitsch in the British Museum I find some individuals which differ considerably from the type, as

was first pointed out by Marseul (*Jorn. Sci. Math. Phys. Nat. Lisb.*, 1879, p. 45) and which may be briefly described as follows:

Mylabris (M.) myops var. **welwitschi** Wellm. var. nov.

Macula flava basali elytrorum nulla. Typ. in coll. mea.

There are some other points of difference, among which may be mentioned the rather coarser and more irregular punctuation of the head and thorax in the case of the ♀ ♀, and the greater comparative length of the third joint of the antennæ.

40. **Mylabris (M.) oculata** Thunb., Diss. Nov. Ins. Spec., VI, 1791, p. 114.

Cantharis bifasciata Degeer., Ins., VII, p. 647, tab. 48, fig. 13.

Angola (WELWITSCH), Humbe (ANCHIETA).

First described from the Cape.

Mylabris (M.) oculata var. **moufleti** Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 404.

Benguella (MARSEUL), Huilla (LOBO D'AVILA), Caconda (ANCHIETA), Bihé (CAPELLO and IVENS).

Mylabris (M.) oculata var. **ophthalmica** Mars., *ibid.*, p. 404.

Angola (WELWITSCH), Benguella, Capangombe, Humbe (ANCHIETA). Chiyaka, January, 1908, one specimen, Gamba, March, 1908, 3 specimens (WELLMAN).

Described from the Cape.

41. **Mylabris (M.) opacula** Mars., *Jorn. Sci. Math. Phys. Nat. Lisb.*, VII, No. XXV, 1879, p. 45.

Duque de Bragança (MARSEUL), Bihé (CAPELLO and IVENS).

42. **Mylabris (M.) palliata** Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 432, pl. IV, fig. 21a.

Humbe (ANCHIETA).

Described from "Caffraria."

43. **Mylabris (M.) paulinoi** Mars., *Jorn. Sci. Math. Phys. Nat. Lisb.*, VII, No. XXV, 1879, p. 48.

Angola (WELWITSCH).

44. **Mylabris (M.) phelopsis** Mars. *ibid.*, p. 48.

Angola (WELWITSCH).

45. **Mylabris (M.) pluvialis** Wellm. spec. nov.

Nigra, oblongo-ovata, postice paulo latior, parum convexa, nigro-villosula; capite prothoraceque crebre punctulatis; antennis flavis, articulis duobus primis nigris; elytris nigris, punctulatis, macula magna juxtascutellare et altera parva humerali flavis; medio undulatim flavo-fasciatis, postico guttis duabus aurantiacis; corpus infra et pedes nigris.

Long. corp. 18 mm.

Lat. elytr. 8 mm.

Hab. Gamba, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

Medium-sized species; head black, rather closely punctured with

shallow punctures, sparsely clothed with small black hairs; *eyes* large, almost hemispherical; *antennæ* with first two joints black, 3d to 11th light orange; *thorax* black, closely punctured, clothed with a few black hairs; *scutellum* very small, hardly visible, with a few fine black hairs; *elytra* black, punctured throughout not very closely with small, rather deep punctures; there are also some small, fine black hairs over the whole elytra which are marked with a median, yellow, transverse band and also spots anterior and posterior to it, these markings arranged as follows: on each elytron near the base is a large, almost circular bright yellow spot; behind this is the irregular, rather wide, median transverse yellow band which would lie in front of a transverse line which might be drawn to divide the elytron into two halves; about midway between this band and the posterior margin of the elytron are two orange-red spots, nearly round; the larger of these, which is smaller than the basal spots above mentioned, is near the sutural margin of the elytron, almost on a line with the basal spot; the other (hardly half as large) lies opposite at the outer margin of the elytron; basally at the extreme humeral margin of the elytron is a yellow spot, longer than wide, reaching to the margin of the elytron and narrowly connected with the median yellow band; *legs* black, blackly hairy, the front femora and tibiæ covered with short yellowish silky hairs on their inner surface.

Type in my collection; cotype Cat. No. 12123, U. S. N. M.

In some specimens the basal spots (both juxta-scutellar and humeral) show a tendency to become confluent with the median fascia.

This species is very prolific and appears in great numbers during the rains. In March, 1908, at Gamba, Angola, I collected 194 specimens in a few hours. Its principal food plant is *Tribulus zegheri*.

46. *Mylabris* (M.) *rufitarsis* Mars., *Jorn. Sci. Math. Phys. Nat. Lisb.*, VII, No. XXV, 1879, p. 52.

Loanda (WELWITSCH), Huilla (ANCHIETA).

47. *Mylabris* (M.) *senegalensis* Voigts, *Wien. Ent. Zeit.*, XXI, p. 178.

Mylabris bifasciata Oliv., *Ent.*, III, 47, p. 5, tab. 1, fig. 10 (nec Degeer).

Angola (WELWITSCH), Angola—"aus dem inneren"—(POGGE).

Described from Senegal, also a variety (var. *conjuncta* Voigts, *Wien. Ent. Zeit.*, XX, p. 217) from Dar-es-Salaam.

48. *Mylabris* (M.) *sibylæ* Wellm. spec. nov.

Nigra, statura magna sat robusta, nigro-pubescens; capite (antennæ articulis 1, 2 nigris, 2, 3 fulvis, reliquis flavis; palpis brunneis) prothoraceque nigris subtiliter punctulatis, nigro-villosis, hoc longitudine paulo latior, medio leviter bi-impresso; elytris nigris, dense subtiliter

punctatis, maculis 2 (juxta-scutellare et humerali) obscure aurantiacis, fascisque 2 (prima anteriore ad medium integra, secunda inter medium et apicem interrupta) obscure rufo-aurantiacis ornatis. Corpus infra et pedes nigra, nigro-pubescentia.

Long. corp. 24 mm.

Lat. elytr. 13 mm.

Hab. Gamba, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

Large black species, rather robust, clothed with very short black pubescence, which is longer on the head, thorax and abdomen. The head and thorax are feebly punctulate, the latter doubly though feebly impressed. Eyes large, not very convex. Antennæ with the first two joints black, the second and third fulvous and the remainder light orange-yellow. The palpi are brownish. Scutellum very small, triangular. Elytra closely and finely punctate, each elytron with two spots, juxta-scutellar and humeral, and two fasciæ, the first in front of the middle, the second about midway between the median band and the apex of the elytron. The two spots and the median band are dark orange, the posterior band (which is sometimes interrupted) dark orange-red. Legs and body black, clothed with black hairs, the internal surface of the front legs covered with short pale silky hairs.

Type in my collection; cotype Cat. No. 12124, U. S. N. M.

Twenty-four specimens taken in March, 1908, on the flowers of *Tribulus zegheri*.

49. *Mylabris (M.) tinota* Erichs., Wieg. Arch. Naturg., 1843, I, p. 256.

Angola (ERICHSON), Angola (MARSEUL), Angola (WELWITSCH).

Type in Berlin, Königliches Museum.

50. *Mylabris (M.) tindila* Wellm. spec. nov.

Nigra, parva, nigro-pubescent; caput dense punctulatum, nigro-villosum, antennis flavis, articulis duobus primis nigris; thorax parvus, dense punctulatus, nigro-villosus, latitudine longior, postice longitudinaliter foveolatus; elytra dense subtiliter punctata, liniis dorsalibus 3 distinctis, nigro-pubescentia; fasciis tribus undulatis flavis suturam attingentibus; corpus infra et pedes nigra.

Long. corp. 12 mm.

Lat. elytr. 5 mm.

Hab. Gamba, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

A rather small species; head densely punctulate, blackly pubescent with a longish vertical smooth boss between the eyes. Eyes promi-

nent. *Antennæ* with first two joints black, the next three dark yellow, the remainder light yellow. The palpi are black, hairy. *Thorax* small, narrow, longer than wide, conical in front, densely punctulate, with a small longitudinal median fovea at its posterior third. *Scutellum* small. *Elytra* black, finely and closely punctured, with three yellow bands placed much as in *M. liquida* Erichs. except that the basal fascia has no tendency to become interrupted. The three longitudinal veins or lines on the elytra are very distinct. *Legs* and under side of body black, blackly pubescent.

Type in my collection; cotype Cat. No. 12125, U. S. N. M.

Two specimens taken March, 1908, on the flowers of *Tribulus zezheri*. The specific name is a Bantu word meaning rare.

51. *Mylabris* (M.) *tricolor* Gerst., Peter's Reis. n. Mozamb., (1862), p. 297, pl. 17, fig. 11.

Humbe (ANCHIETA).

Described from Mozambique.

Type in Berlin, Königliches Museum.

52. *Mylabris* (M.) *trispila* Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, p. 55, 1879.

Loanda (WELWITSCH), Huilla (ANCHIETA).

53. *Mylabris* (M.) *tristigma* Gerst., Monatsb. Berl. Acad., 1854, p. 694.

Described from Mozambique. The Angolan examples may be regarded as at least representing a distinct western geographical race which may be described as follows:

Mylabris (M.) *tristigma tribuli* Wellm. subsp. nov.

Nigra, angusta, valde elongata; capite crebre punctato, nigro-villoso; antennis articulis primis duobus fulvis, reliquis flavis. Labrum fulvum; palpis inflatis, truncatis, flavis; thorace crebre punctato, longitudine latiore medio impresso, postice elevato. Elytra flava, fortiter punctata, nigro-pubescentia; margine basali maculis duabus antemedium (altera pone suturam, altera majore laterali) fascia submediana apiceque nigris. Corpus infra et pedes (tarsi primi postici excepti) nigra, nigro-pubescentia.

Long. corp. 20 mm.

Lat. elytr. 5 mm.

Hab. Gamba, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

This insect, which quite possibly represents a new species, is described for the present as a subspecies of *tristigma* Gerst., from which it differs *inter alia* by the longer and narrower body, the shape of the head and eyes, the much larger black spots on the anterior part of the elytra, the different marking of the posterior portion, which shows a complete yellow band instead of the two yellow spots on a broad black apical band, etc.

Type in my collection; cotype Cat. No. 12126, U. S. N. M.

Three specimens taken at Gamba, on flowers of *Tribulus zegheri*, March, 1908.

The type of *tristigma* is in Berlin, Königliches Museum.

54. *Mylabris* (M.) *tristriguttata* Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 55.

Mylabris "*ristriguttata*" Mars., Champion, Soc. Ent. Belg. Ann., XLIII, 1899, p. 165 (*ex error*).

Loanda (WELWITSCH).

Subgenus CEROCTIS Mars.

55. *Mylabris* (C.) *amphibia* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 559, pl. V, fig. 70a.

Angola (MARSEUL).

56. *Mylabris* (C.) *angolensis* Gemm., Col. Hefte, VI, 1870, p. 123.

Mylabris phalerata Erichs., Wieg. Arch. Naturg., I, 1843, p. 256.

Angola (ERICHSON), Angola (WELWITSCH).

Type in Berlin, Königliches Museum, marked "Angola Schönh."

57. *Mylabris* (C.) *bohemani* Mars., Mém. Soc. roy. Sci. Liège, 1872, p. 198, pl. V, fig. 69.

Capangombe (ANCHIETA).

Described from "Caffraria."

58. *Mylabris* (C.) *exclamationis* Mars., *ibid.*, p. 562, pl. V, fig. 72a.

"Amberix" (= ? Ambriz) (MARSEUL), Bengo (WELWITSCH), Gamba, March, 1908, on flowers of *Tribulus zegheri*, 16 specimens (WELLMAN).

59. *Mylabris* (C.) *interna* Har., Mitth. Münch. Ent. Ver., 1878, p. 108.

Angola (WELWITSCH) (a specimen in the British Museum labeled as *Coryna lata* Reiche), Angola (MECHOW), Pungo Andongo, end of July (POGGE and HOHMEYER), Chiyaka, 1 specimen on grass December, 1906, 1 specimen on *Geigeria wellmani* September, 1907, 20 other specimens on Compositæ chiefly *Geigeria* and *Othonna* spp. (WELLMAN).

Described from the interior of "Guinea" and placed by its author in the genus *Bruchus*. *C. vespina* Thos. (*Ann. Mag. Nat. Hist.*, 6, XIX, p. 501) from east Africa has been sunk as a synonym of the species under discussion, but a series of 40 specimens from the Congo, now in the United States National Museum, together with my own examples, show that *vespina*, the type of which is in the British Museum, should be retained as a distinct and stable variety of *interna*, the front brown fascia of the latter being quite constantly reduced to two dots in the former. In the description *vespina* is not compared with *interna* but with *yerburi* Gahan, from which it differs not especially (as is stated by Thomas) in the elytral banding, but in the color and structure of the antennæ (the type of *vespina* has no antennæ) which are very different.

The type of *interna* is in Berlin, Königliches Museum, and has "Regn. Lunda" on the locality label.

60. *Mylabris* (C.) *serricornis* Gerst., Peter's Reis., 1862, p. 300, pl. 18, fig. 1.

Loanda, Huilla (WELWITSCH), Humbe (ANCHIETA).

This fine species was first described from Mozambique. In the type (in Berlin, Königliches Museum, marked "Mozamb. Peters") the legs are rather less hairy than in ordinary specimens.

61. *Mylabris* (C.) *trifurca* Gerst., Monatsb. Berl. Acad., 1854, p. 694.

Chiyaka, 1 specimen taken digging in native path, 1 specimen in large orchid, October, 1907, 2 other specimens, one on flowers of *Farao wellmani* and one flying, December, 1907 (WELLMAN).

Described from Mozambique.

Type in Berlin, Königliches Museum marked "Sena, Peters."

Genus **ELETICA** Lacord., Gen. Col., V, p. 672.

62. *Eletica colorata* Har., Mitth. Munch. Ent. Ver., 1878, p. 108.

Angola—"aus dem inneren"—(POGGE), Chiyaka, November, 1907, taken flying in bright sunshine after a rain, 2 specimens (WELLMAN).

Described from the interior of Guinea. Kolbe (*Col. aus Afrika*, I, p. 178f.) considers *bicolor* Champ. (*Proc. Zool. Soc. Lond.*, 1890, p. 645, tab. 56, fig. 8) from Central Africa as a synonym of this species.

The type of *colorata* is in Berlin, Königliches Museum.

63. *Eletica læviceps* Kolbe, Ent. Nachr. XII, p. 299.

Chiyaka, November, 1907 (WELLMAN). A single specimen which lit on my hat in bright sunshine.

Described from the Congo. This species is very near *rufa* F., if indeed it can be separated from it.

The type of *læviceps* is in Berlin, Königliches Museum.

64. *Eletica ornatipennis* Luc., Bull. Soc. Ent. Fr., 1887, p. XXVII.

Huilla (CAMPANA).

65. *Eletica rufa* Fabr., Syst. El., II, p. 78.

Lytta bipustulata Fabr., loc. cit., p. 78.

Eletica cardinalis Pér., Trans. S. Afr. Phil. Soc., IV, p. 136.

Angola (WELWITSCH), Angola (MONTEIRO), Angola (ANCHIETA), Chiyaka, January, 1908, twelve specimens (WELLMAN). Always taken about 9–11 A.M., flying, or rarely crawling, in bright sunshine after a rain. One specimen also lit on my hat.

First described from Senegal. This is an extraordinarily variable species, ranging from light red to coal black, some individuals even having the elytra pale yellow with black tips. I suspect that some of

the black forms described under other names are nothing but variations of *rufa*, but as yet have been unable to examine the types.

66. *Eletica stuhlmanni* Kolbe, Stett. Ent. Zeit., LV, p. 183.

Chiyaka, November, 1907, three specimens (WELLMAN). Brought to me by my servant.

Described from Lake Albert Nyanza. It is probable that my specimens represent a new form, very closely allied to *stuhlmanni*, but the specimens are in such bad condition that I cannot separate them from Kolbe's species, without further material.

The type of *stuhlmanni*, is in Berlin, Königliches Museum.

Tribe LYTTINI.

Genus **LYTTA** Fabr., Syst. Ent., p. 260.

Cantharis Linn., Act. Ups., 1736, p. 19 (*pars*).

Lagorina Muls. et Rey., Ins. Canth., 1858, p. 150.

67. *Lytta amethystina* Mäkl., Act. Soc. Sci. Fenn., 1875, p. 602.

Chiyaka, running about on ground in company with *L. signifrons* Fähr., 56 specimens (WELLMAN).

Described from Senegal.

68. *Lytta atrocærulea* Har., Mitth. Münch. Ent. Ver., 1878, p. 108.

Angola—"aus dem inneren"—(POGGE).

Described from the interior of Guinea.

Type in Berlin, Königliches Museum.

69. *Lytta buqueti* Mäkl., Act. Soc. Sci. Fenn., 1875, p. 602.

Humbe (ANCHIETA).

Described from Senegal.

70. *Lytta chalybea* Erichs., Wieg. Arch. Naturg., I, 1843, p. 258.

Cantharis seminitens Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 60.

Angola (ERICHSON), Angola (WELWITSCH), Loanda (HOHMEYER), Angola (MONTEIRO), Gamba, March, 1908, on flowers of *Tribulus zegheri*, 146 specimens (WELLMAN).

A comparison of the material in Berlin and London with my series shows that Erichson's and Marseul's species are the same.

The type of *chalybea* is in Berlin, Königliches Museum.

71. *Lytta cinetifrons* Mars., *loc. cit.*, p. 61.

Humbe (ANCHIETA).

72. *Lytta episcopalis* Har., Mitth. Münch. Ent. Ver., 1878, p. 108.

Angola—"aus dem inneren"—(POGGE).

Described from the interior of Guinea.

Type in Berlin, Königliches Museum.

73. **Lytta hemicrania** Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 61.
Angola (WELWITSCH).

74. **Lytta laminicornis** Fairm., Notes Leyd. Mus., X, p. 270.
Humpata (KELLEN).

75. **Lytta maculifrons** Mäkl., Act. Soc. Sci. Fenn., 1878, p. 608.
Angola (WELWITSCH), Angola (MONTEIRO), Humbe (ANCHIETA).

76. **Lytta melanocephala** Fabr., Syst. El., II, p. 77.
Lytta melanocephala var. *bilineata* Haag-Rut., Deutsch. Ent. Zeit., 1880, p. 68.
Angola (WELWITSCH).

Described from Guinea. Hoag-Rutenberg's *Lytta bilineata* from Senegal is here treated as only a variation of *melanocephala* Fabr., but it is probable that the examination of more material would show it to be a constant and distinct geographical subspecies.

77. **Lytta metasternalis** Fairm., Notes Leyd. Mus., X, p. 269.
Humpata (KELLEN).

78. **Lytta myrmido** Fairm., Pet. Nouv. Ent., II, p. 93.
Angola (FAIRMAIRE).

79. **Lytta notifrons** Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 59.
Humbe (ANCHIETA).

80. **Lytta pectoralis** Gerst., Monatsb. Berl. Acad., 1854, p. 695.
Gamba, March, 1908, 56 specimens (WELLMAN); never seen feeding but always running about restlessly on the ground like Carabidæ.

The type of *pectoralis* Gerst. is in Berlin, Königliches Museum.

Described from Mozambique. Fairmaire (*Faun. et Flor. Comal., Col.*, 1882, p. 84) has described another insect under the same name. For this last species I would propose

Lytta rubropectus Wellm. nom. nov.

81. **Lytta signifrons** Fähr., Ofv. Vet.-Ak. Förh., XXVII, p. 352.
Lytta Cælestina Haag-Rut., Deutsch. Ent. Zeit., 1880, p. 61.

Angola (WELWITSCH), Chiyaka, December, 1908, running on ground in company with *L. amethystina* Mäkl., 28 specimens (WELLMAN).
Described from "Caffraria."

82. **Lytta strigida** Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 61.
Angola (WELWITSCH).

83. **Lytta subrugulosa** Mäkl., Act. Soc. Sci. Fenn., X, p. 606.
Humbe (ANCHIETA).

84. **Lytta thoraoia** Erichs., Wieg. Arch. Naturg., I, 1843, p. 258.
Angola (ERICHSON), Gamba, March, 1908, on flowers of *Tribulus zegheri*, 10 specimens (WELLMAN).

My examples show that the puncturing of the thorax is variable and not always so reduced in the ♂♂ as Erichson thought.

85. *Lytta vellicata* Erichs., *ibid.*, p. 258.

Angola (ERICHSON).

Type in Berlin, Königliches Museum.

Genus *EPICAUTA* Redt. Faun. Aust., I, p. 631.

Isopentra Reitt., Wien. Ent. Zeit., XXXIV, p. 195.

86. *Epicauta canescens* Klug, Erman. Reis., 1835, p. 42.

Angola (WELWITSCH).

Described from Guinea.

87. *Epicauta prolifica* Wellm. spec. nov.

Nigra (caput rufum) lata, oblonga, pube densa depressa alba vestita; caput magnum, subpunctulatum, antennæ filiformes; thorax quadratus longitudine latior, medio leviter sulcatus, crebre punctatus; elytra crebre punctata, albo-marginata, medio lineaque dorsali longitudinali albis; corpus infra pedesque dense albo-vestita; pedes postici valde elongati.

Long. corp. 12 mm.

Lat. elytr. 6 mm.

Hab. Chiyaka, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

A very short robust species; black, clothed with a dense covering of closely lying white hairs, giving the insect a gray appearance. *Head* large, red (a frontal spot, the mouth parts and antennæ are black), feebly punctulate, clothed with short white hairs (very small and sparse on the vertex); *eyes* long, narrow and oblique; *antennæ* filiform, first joint long, second joint constricted before the base, third joint twice as long as second and much longer than fourth. *Thorax* quadrate, wider than long, with a very faint median longitudinal groove, closely and finely punctured. *Scutellum* small, triangular. *Elytra* also closely and finely punctured, with a white dorsal vitta (formed by a thicker arrangement of the hairs of the elytron) reaching from the base to almost the apex of the elytron; a white margin to the elytron formed in the same way. The *legs* and under surface of the body are closely covered with fine white hairs. There is a concave sericeous spot on the inner surface of the front femora and tibiæ. The hind legs are very long.

Type in my collection; cotype Cat. No. 12127, U. S. N. M.

An interesting variety also occurs which may be briefly indicated as follows:

Epicauta canescens var. **elunda** Wellm. var. nov.

Vitta dorsali elytrorum nulla.

Typ. in coll. mea.

The absence of the most prominent marking gives the insect a strikingly different aspect. The name is a local word referring to the place in which the type of the variety was found.

Seventy-eight specimens of this species taken in November, 1907, and February, 1908. It is usually found wandering aimlessly about on the ground, but I have taken it eating potato tops and also bean leaves. It is often mentioned by the natives as destroying their crops. I once found them eating the young tender sprouts of a coarse branching grass (*Eragrostis* sp.).

Genus **ÆNAS** Latr., Hist. Nat. Crust. Ins., III, 1802, p. 186.

88. **Ænas bicolor** Cast., Hist. Nat. Ins., II, p. 271.

Angola (BITTA).

89. **Ænas melanura** Erichs., Wiegmann Arch. Naturg., I, 1843, p. 259.

Angola (ERICHSON).

Genus **SYBARIS** Steph., Ill. Brit. Ent., V, 1832, p. 70.

Prionotus Koll. et Redt., Hüg. Kasch., IV, p. 356.

Lacordaire (*Gen. Col.*, V, p. 683) suggests regarding the type (said to have been found in England) of this genus that it "pourrait bien être d'origine exotique." I have examined the insect (*S. immunis* Steph.) in the British Museum and believe that this must certainly have been the case.

90. **Sybaris flaveola** Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 62.

Angola (WELWITSCH).

91. **Sybaris picta** Mars., *ibid.*, p. 62.

Humbe (ANCHIETA).

Genus **SITARIS** Latr., Hist. Nat. Crust. Ins., III, 1802, p. 187.

Necydalis Fabr.

Criolis Muls.

Stenoria Muls.

92. **Sitaris hilaris** Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, 1879, p. 64.

Angola (WELWITSCH).

Genus **ZONITIS** Fabr., Syst. Ent., 1775, p. 126.

Apalus Oliv., Encyc. méth., I, p. 165.

Megatrachelus Motsch., Bull. Mosc., 1845, p.

Stenodera Eschsch., Mém. Acad. Imp. Sci. Pet., VI, 1818, p. 469.

Zonitides Abeille de Per., Bull. Soc. Toul., XIV, 1880, p. 253.

Tmesidera Westw., Guér., Mag. Zool. Ins., 1841, tab. 85 (*pars*).

Euzonitis Sem., Hor. Soc. Ent. Ross., XXVII, 1893, p. 276.

Subgenus 1. ZONITIS Fabr., *loc. cit.*, p. 126 (*sens. str.*).

Subgenus 2. NEMOGNATHA Illig. Mag. Ins., VI, 1807, p. 333.

Leptopalpus Guér., Icon. Ins., p. 136.

Subgenus 3. GNATHIUM Kirby, Trans. Linn. Soc. Lond., XII, p. 425.

I propose to follow Casey (*Ann. N. Y. Acad. Sci.*, VI, 1891, p. 170) in treating *Nemognatha* and *Gnathium* under *Zonitis*. This will necessitate changes in synonymy (principally of the American species) which need not be entered into at this time. The elongated outer lobe of the maxillæ is the only real character separating the two first mentioned groups from *Zonitis* proper, and this character fails in several American species and also in the new species of *Nemognatha* described in the present paper. The differences between *Nemognatha* and *Gnathium* are even slighter, the antennal and thoracic characters often leaving one in doubt as to which group an insect should go. Nevertheless the divisions are useful to a certain extent and I do not follow Casey in sinking the names entirely, but suggest that they both be considered as subspecies of *Zonitis*.

The following artificial table shows how the main characters run through the three groups of the genus:

A.—Palpi not elongated.

Antennæ not thickened at tips, . . ZONITIS (*sens. str.*).

AA.—Palpi elongated, the maxillary palpi often forming a sucking proboscis.

a.—Antennæ not thickened at tips, . . . NEMOGNATHA.

aa.—Antennæ thickened at tips, GNATHIUM.

Subgenus ZONITIS Fabr. (*sens. str.*).

93. *Zonitis* (Z.) *antennalis* Wellm. spec. nov.

Gracilis, lutea; antennæ, pectus et pedes (tibiis exceptis) nigra; capite prothoraceque valde elongatis, angustis, subtiliter punctulatis, hoc tri-impresso (impressionibus haud profundis); antennis fortiter serratis; palpis nigris, apice oblique truncatis. Elytra dense subtiliter punctata, submedio nigro-fasciata. Pectus, pedes et abdomen pallido-sericea.

Long. corp. 12 mm.

Lat. elytr. 4½ mm.

Hab. Chiyaka, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

A striking species both from its form and coloration. Luteous except the mouth parts, antennæ, breast and legs which are black, the tibiæ having the upper portion also luteous. *Head* and *thorax* long and

narrow, finely punctulate, the latter with three shallow impressions. Labrum luteous provided with a fringe of strong yellow hairs. The *antennæ* are strongly serrate. *Eyes* strongly reniform. Palpi black with apices obliquely truncate. *Elytra* closely and finely punctured and ornamented with a broad black band somewhat in front of their middles. Breast, legs and abdomen with pale silky hairs.

One specimen, November, 1907.

94. *Zonitis* (Z.) *prionocera* Wellm. spec. nov.

Caput, prothorax, scutellum et abdomen lutea; antennæ, elytra, pectus et pedes nigra; capite prothoraceque elongatis, angustis, sparsim punctulatis; antennis nigris, serratis; articulis 1, 2 nitidis; elytris dense subtiliter punctatis, albo-subpubescentibus. Pedes nigri; tibiis parte superiore luteis. Pedes et abdomen pallido-sericea.

Long. corp. 10 mm.

Lat. elytr. 5 mm.

Hab. Chiyaka, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

Graceful species; head, thorax, scutellum and abdomen luteous; antennæ, elytra, breast and legs (except the upper portion of the tibiæ) black. *Head* and *thorax* long, narrow, rather finely punctured. *Eyes* strongly reniform, *antennæ* serrate, first 2 joints very shining, sparsely punctulate, rest dull and clothed with microscopic hairs; 3d joint shorter than 4th; *scutellum* very finely punctulate and with microscopic hairs. *Elytra* shining, irregularly and rather finely punctured. *Legs* black, closely punctulate, upper $\frac{3}{4}$ of tibiæ luteous. Breast and abdomen punctulate, sparsely covered with microscopic hairs.

One specimen taken in November, 1907.

Subgenus NEMOGNATHA Illig.

95. *Zonitis* (N.) *angolensis* Har., Col. Heft, XVI, 1879, p. 142.

“Wahrscheinlich von Loanda oder von Pungo Andongo (Hoh-MEYER).” (Harold.)

Type in Berlin, Königliches Museum.

96. *Zonitis* (N.) *annulicornis* Mars., Journ. Sci. Math. Phys. Nat. Lisb., VII, No. XXV, p. 65.

Angola (WELWITSCH).

97. *Zonitis* (N.) *ciconia* Mars., *ibid.*, p. 66.

Mossamedes (ANCHIETA).

98. *Zonitis* (N.) *posoka* Wellm. spec. nov.

Parva; caput, pectus, scutellum et pedes nigra; thorax et abdomen lutea; elytra viridi-cærulea; capite subtiliter punctulato; antennis fili-

formibus; palpis plus minusve elongatis (sed palpis maxillaribus proboscidem non formantibus) totis nigris, albo-pubescentibus; labro albo-villoso; thorace luteo, lato, sparsim punctulato; elytris dense punctulatis; nigro-subpubescentibus. Pectus et pubes nigra, albo-sericea; pedes postici valde elongati.

Long. corp. 9 mm.

Lat. elytr. 4 mm.

Hab. Chiyaka, Angola (Africa); *ab auctore collecta.*

Typ. in coll. mea.

Small, elegant species; *head* and *thorax* broad, rather coarsely and sparsely punctured, with pale microscopic hairs. *Antennæ* filiform, first three joints of about equal length. *Scutellum* very finely punctulate. *Elytra* more finely and closely punctured than head and thorax. Breast and abdomen very feebly punctulate, covered with short fine, pale hairs; femora with similar hairs; tibiæ and tarsi with coarse short black hairs, thickly set.

One specimen taken in November, 1907. The specific name is a local Bantu word meaning beautiful.

99. *Zonitis* (N.) *scapularis* Mars., *Jorn. Sci. Math. Phys. Nat. Lisb.*, VII, No. XXV, 1879, p. 67.

Angola (WELWITSCH).

Genus **DERIDEA** Westw., *Trans. Ent. Soc. Lond.*, 1875, p. 226.

? *Iselma* Haag-Rut., *Deutsch. Ent. Zeit.*, XXIII, 2, 1879, p. 401.

Westwood in founding this genus referred it with an interrogation to the Helopidæ, remarking in his diagnosis "*unguibus-simplicibus.*" Fairmaire also (*Ann. Soc. Ent. Fr.*, 1891, p. 265) says of "*Doridea (sic)* Westw." that while it "*rappelle au premier bord, certaines especes du genre Nemognatha,*" still "*il en differe par les crochets des tarses simples.*" Thomas (*Ann. Mag. Nat. Hist.*, 1897, p. 389) has pointed out that the claws are divided. The only properly generic character given by Haag-Rutenberg for his genus *Iselma* is that the claws are non-pectinated, and this character is shared by *Deridea*. The diagnoses of both genera come very near to *Zonitis*, with the exception of this important character, and I am inclined at present to sink *Iselma* as a synonym of *Deridea*, which (I am convinced by an examination of the type at Oxford and a series of specimens in the British Museum) should be regarded as a good genus belonging by virtue of most of its characters to the *Zonitis* group, but aberrant by reason of its non-pectinated claws.

100. *Deridea curculionides* Westw., Trans. Ent. Soc. Lond., 1875, p. 226

Angola (ROGERS).

Type in Oxford, Hope Department.

SUBFAM. HORIINÆ.

Genus **HORIA** Fabr., Mant. Ins., I, 1787, p. 164.

Cissites Latr., Gen. Crust. et Ins., II, 1807, p. 211.

Gahan has recently worked out the vexed synonymy of this genus in a valuable paper which I have read, by the kindness of the author, in manuscript.³ I here adopt his synonymy (which is the same as that of Aurivillius *ubi infra*) of the species reported from Angola.

101. *Horia africana* Auriv., Ent. Tidskr., XI, 1890, p. 203.

? *Horia senegalensis* ♀ (nec ♂) Cast., Hist. Nat. Ins., II, 1840, p. 280.

? *Horia (Cissites) testacea* Fab., De Borre, Ann. Soc. Ent. Belg. C.R., 1883, p. 136.

Angola (WELWITSCH).

Described from the Congo and referred to the genus *Cissites*.

³ Since this was written Mr. Gahan's paper has been published (*Ann. Mag. Nat. Hist.*, Ser. 8, Vol. II, 1908, p. 199f.) under the title, "Notes on the Coleopterous genera *Horia* Fab., and *Cissites* Latr., and a List of the Described Species."